

Remarks

Claims 1-5, 10-20, 24-26, and 28-32 were pending in the subject application. By this Amendment, the applicant has amended claims 1, 11, 16, 17, and 28, and has added new claim 34. Support for these amendments can be found throughout the original specification and claims including, for example, at page 8, lines 1-3. Entry and consideration of the amendments presented herein is respectfully requested. Accordingly, claims 1-5, 10-20, 24-26, 28-32 and 34 are currently before the Examiner. Favorable consideration of the pending claims is respectfully requested.

The amendments to the claims have been made in an effort to lend greater clarity to the claimed subject matter and to expedite prosecution. These amendments should not be taken to indicate the applicants' agreement with, or acquiescence to, the rejections of record. Favorable consideration of the claims now presented, in view of the remarks and amendments set forth herein, is earnestly solicited.

The subject invention provides a unique solution to the longstanding problem of the buildup of static during the production of spunbond non-woven fabrics. The flow of air across the filaments in the spunbond process generates tremendous amounts of static buildup in the attenuation device, which inevitably leads to defects in the fabric. Therefore, a method is needed for efficiently reducing static. The subject invention, which involves feeding an additive into the extruder, is very advantageous because it reduces static with no color pollution, at minimal cost, with no blinding of filters or packs, and without introducing particulate matter into the melt stream.

Claims 1-5, 14, 15, 17-20, and 26 have been rejected under 35 U.S.C. § 102(b), as being anticipated by Gillespie (U.S. Patent No. 5,783,503) as evidenced by Tortora (*Understanding Textiles*, pages 38, 39, and 402). The applicant respectfully traverses this ground for rejection because the cited reference does not disclose (or even suggest) the applicant's advantageous method as now claimed.

Gillespie teaches producing a spunbond product by originating filaments from a spinneret, attenuating and drawing the filaments through a slot draw apparatus, and depositing the filaments onto a collection surface to form a web. Gillespie does not, though, teach adding

an antistatic agent to the blend. The Office Action suggests that nylon and polyester are, themselves, antistatic agents because Tortora discusses moisture regain.

Although the applicant does not agree that nylon and polyester can be considered “antistatic” agents in the context of the current invention, the claims have been amended herein to specifically recite that the claimed method utilizes an antistatic agent in addition to the polymer that makes up the filaments. This amendment is supported by the specification, which frequently refers to the addition of the antistatic agent to the filament polymer.

It is a basic premise of patent law that, in order to anticipate, a single prior art reference must disclose within its four corners, each and every element of the claimed invention. In *Lindemann v. American Hoist and Derrick Co.*, 221 USPQ 481 (Fed. Cir. 1984), the court stated:

Anticipation requires the presence in a single prior art reference, disclosure of each and every element of the claimed invention, arranged as in the claim. *Connell v. Sears Roebuck and Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983); *SSIH Equip. S.A. v. USITC*, 718 F.2d 365, 216 USPQ 678 (Fed. Cir. 1983). In deciding the issue of anticipation, the [examiner] must identify the elements of the claims, determine their meaning in light of the specification and prosecution history, and identify corresponding elements disclosed in the allegedly anticipating reference. *SSIH, supra*; *Kalman [v. Kimberly-Clarke]*, 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983)] (emphasis added). 221 USPQ at 485.

It is well established that in order to anticipate, a single reference must disclose within the four corners of the document each and every element and limitation contained in the rejected claim. *Scripps Clinic & Research Foundation v. Genentech Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991).

As discussed above, Gillespie contains no teaching of adding an antistatic agent to the blend. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. §102(b).

Claims 1-5, 14, 15, 17-20, and 26 have been rejected under 35 U.S.C. §103(a) as being obvious over Gillespie (U.S. Patent No. 5,783,503) in view of Tortora (*Understanding Textiles*, pages 153-157, 401, and 402). The applicant respectfully traverses this ground of rejection

because the references, either taken alone or in combination, do not teach or suggest the applicant's claimed invention.

As discussed above, Gillespie does not contemplate adding an antistatic agent to the blend. Tortora discusses using bicomponent fibers as additives to conventional synthetic fibers to dissipate static electric charges. However, the fibers of Tortora are metal, metalized, or contain metal or carbon. For the reasons discussed below, the person skilled in the art would not use these components in a spunbond process. Therefore, there is no reason to combine these references to arrive at the current invention.

The use of the fibers of Tortora, which are metal, metalized, or contain metal or carbon will plug packs and filters, as well as create a fabric that is no longer the natural color of nylon. As evidence of this assertion, the applicant respectfully directs the Examiner's attention to U.S. Patent No. 5,277,855 to Blackmon *et al.*, a copy of which is attached hereto. The Blackmon patent discloses co-spinning carbon black in a carpet yarn process. Blackmon *et al.* describe forming conductive filaments separate from nonconductive filaments (see Background section) or co-spinning carbon black (see, for example, Abstract). If carbon black could have been feasibly added to the melt blend without causing the problems discussed herein, then Blackmon *et al.* likely would have done so instead of investing in the additional co-spinning equipment.

Furthermore, the applicant also respectfully directs the Examiner's attention to U.S. Patent No. 2,845,962 to Bulgin, a copy of which is also attached hereto. Bulgin discusses that a proportion of carbon black of around 25% should be used in an antistatic fabric (see column 1, line 64 to column 2, line 5). It is well-known in the art that using carbon black in the melt stream of a polymer, especially in such high proportions, would severely plug filters and packs. Due to these factors, a skilled artisan would not have found a reason to combine Tortora's synthetic fibers with the process of Gillespie.

The mere fact that the purported prior art could have been modified or applied in some manner to yield an applicant's invention does not make the modification or application obvious unless "there was an apparent reason to combine the known elements in the fashion claimed" by the applicant. *KSR International Co. v. Teleflex Inc.*, 550 U.S. ____ (2007). Also, an

applicant's invention is not "proved obvious merely by demonstrating that each of its elements was, independently, known in the (purported) prior art." *Id.* As discussed above, a skilled artisan would not have had a reason to modify the teachings of Gillespie and Tortora to arrive at the claimed invention.

Accordingly, the applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a) based on the Gillespie in view of Tortora.

Claims 1-5, 10-20, 24-26, and 28-32 have been rejected under 35 U.S.C. § 103(a), as being unpatentable over Gillespie in view of either Warburton (U.S. Patent No. 4,081,383) or George (U.S. Patent No. 4,167,464). The applicant respectfully traverses this ground of rejection because the cited references, either taken alone or in combination, do not teach or suggest the claimed invention.

Warburton teaches a composition and method for improving soil resistance of carpets. The process used is a low temperature system, with the highest temperatures coming in the curing after the carpets or yarns are coated. The curing temperature is preferably lower than 160 °C (see col. 7, lines 19-21). As Mr. Ortega discusses in his Expert Declaration submitted October 12, 2007, it is well known in the art that spunbonding processes must be accomplished above the melt point of the polymers used, which is often above 200 °C. Compounds used in low temperature systems, such as Warburton, often cannot be used in higher temperature systems due to decomposition temperatures of many compounds. The very fact that the applicant's claim recites a spunbond process necessarily requires the process to be carried out at high temperatures. Thus, a skilled artisan would not have had a reason to consider using compounds disclosed in the low temperature system of Warburton as part of a high temperature process, as discussed in the claimed invention and in Gillespie.

As discussed above, an applicant's invention is not "proved obvious merely by demonstrating that each of its elements was, independently, known in the (purported) prior art." *KSR, supra*. There must be "an apparent reason to combine the known elements in the fashion claimed" by the applicant. *Id.* Here, a skilled artisan would have had no reason to combine the teachings of the low temperature Warburton system with the high temperature process of Gillespie.

Additionally, the applicant respectfully points out that the fact that the filaments of the web must be able to be bonded at high temperatures is now an included feature of the claims.

George teaches the preparation of highly water absorbent films and fibers by photopolymerizing various compounds. These compounds are dissolved in water and applied to a substrate and dried at about 50 °C (see col. 8, lines 64-65). This is also a low temperature system and, as discussed above, a skilled artisan would have no reason to use compounds from such a low temperature system in the high temperature processes of Gillespie and the claimed invention. In addition, the process used to create the interpolymers taught by George has nothing to do with, and makes no mention of, spunbond, nonwoven fabrics or static dissipation. George is nonanalogous art having no specific relevance to the Gillespie reference. Thus, one of ordinary skill in the art would not have found any reason to take the George compounds that are dissolved in water in a low temperature system and use them in the high temperature Gillespie process as part of a melt for a spunbond, nonwoven fabric to reduce static.

As noted above, there would be no reason to modify the teachings of the cited references in order to arrive at the current applicant's claimed method. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a) based on Gillespie in view of either Warburton or George.

The applicant appreciates the Examiner's effort to thoroughly address the arguments and evidence presented in the applicant's previous Response. Based on the Examiner's comments, the applicant believes that certain aspects of the applicant's arguments may not have been effectively communicated to the Examiner.

For example, the Examiner notes at pages 13 and 14 of the outstanding Office Action that certain features mentioned in the applicant's remarks are not explicitly set forth in the applicant's claims. Please note that these features are discussed by the applicant not necessarily to distinguish from the cited references but, instead, to explain why the skilled artisan would not be motivated to combine the cited references in the manner suggested by the Examiner. Such a motivation is a prerequisite for a finding of obviousness.

Specifically, for all the reasons discussed above as well as in the applicant's previous response and Mr. Ortega's Declaration, there is simply no reason to combine the cited references to arrive at the current invention. Rather, it is only through hindsight that one could arrive at the current invention from these references.

Finally, the applicant points out that the Office Action may reflect the application of an incorrect obviousness standard when at page 17 it is stated that "there is no evidence that if persons skilled in the art who were presumably working on the problem knew of the teachings of the above cited references, they would still be unable to solve the problem."

The question should not be whether the skilled artisan could have solved the problem, rather the question is whether the applicant's particular solution to the problem would have been obvious. The applicant respectfully submits that, in the absence of the applicant's own disclosure, the claimed invention is not obvious from the cited references. This conclusion is supported by the fact that this is a long-standing problem that had not been solved prior to the applicant's invention.

In view of the foregoing remarks, the applicant believes that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

The applicant also invites the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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Attachments: U.S. Patent No. 2,845,962

U.S. Patent No. 5,277,855